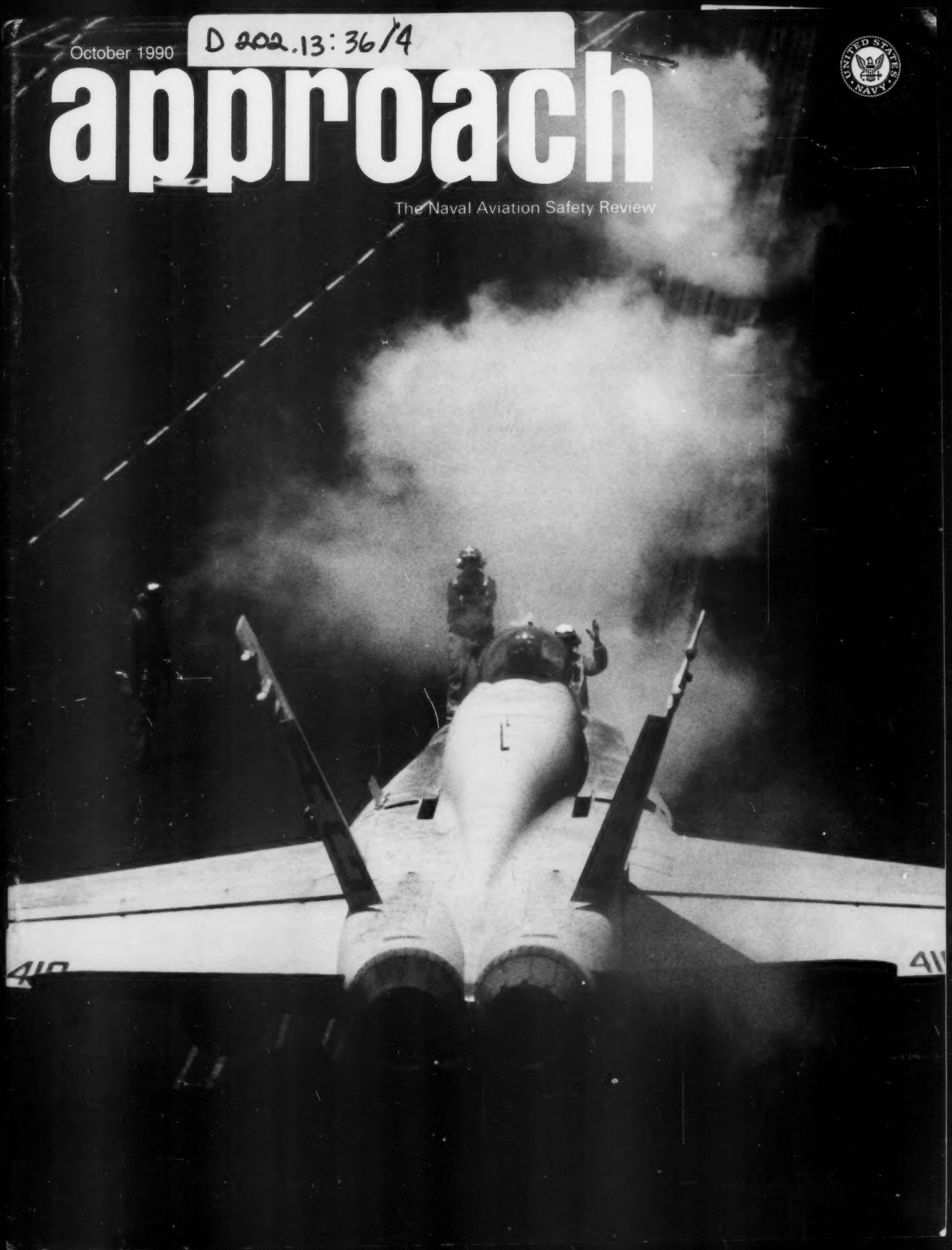
October 1990

approach

The Naval Aviation Safety Review



Guest Editorial

It Always Hurts to Lose a Friend

By LCdr. Mark W. Danielson

It's clear that loss of situational awareness and breakdown in flight discipline are common threads in these mishaps; not one friend had been lost because of an aircraft maintenance problem.

A RECENT midair between an A-4 and F/A-18 during a Dissimilar Air Combat Training (DACT) mission is another example of how dangerous our work can be. After the knock-it-off call following a 2 v 2 engagement, the aircraft were returning to their respective CAP stations. The A-4 struck the belly of the Hornet, and both aircraft went out of control.

The A-4 pilot was killed, presumably on impact. The Hornet pilot was pinned in his aircraft by high G forces and unable to reach his ejection seat handle until 3,000 above the water. Probably out of ejection-seat parameters, he managed to get a chute and survived, but he suffered severe back injuries.

Every pilot on this mission was an experienced fighter pilot; yet, a momentary loss of situational awareness (SA) cost one pilot his life, badly injured another and destroyed two aircraft. I knew the A-4 driver. I've known a lot of pilots who died in aircraft mishaps. After I heard about the midair, I thought about how many of my friends were killed.

A former RIO was on a takeoff roll in his F-4 when a main landing gear broke off. The loss of the gear caused a wing drop-tank to break off, burst into flames, and slide down the runway at a slower rate than the Phantom. The F-4 finally came to rest on its side, 90 degrees to the runway. Without any communication from either crew member, the RIO unstrapped. The pilot, seeing the flaming drop-tank rapidly approaching, decided to eject. His RIO quickly became a human cannonball since he was no longer strapped into his seat. He was killed when he hit the ground.

Two friends were killed in nearly identical scenarios one year apart while flying their F-4s on low-levels in the snow-covered mountains near Salt Lake City. The photos revealed that it was hard to distinguish terrain from the cloudy background. Radar altimeters are not always reliable in this environment, and the train-the-way-we-fight attitude prevented either pilot from climbing to a safer altitude. The result: four aircrewmen and two aircraft gone.

A former jet strike student from our squadron went on to fly AV-8A Harriers. While on a detachment at Fallon, he made a dive-bombing run and hit the ground. He apparently did not try to pull out of the dive and there was no evidence the aircraft had failed.

A fellow squadron instructor pilot decided to bend the rules on a low-level and let his student try a "demo-only" pop-up attack on the target. The student lost control of the aircraft at the apex of

the maneuver. The plane spun into the ground, and the student and instructor were killed.

A short time before this mishap, the same student was in the back seat of his trainer at an airshow when the instructor decided to do an impromptu, unauthorized flight demonstration for the crowd. This breakdown in flight discipline cost the instructor his wings and may have kept the student from learning respect for rules.

Another student became disoriented while trying to find the initial to the field on a solo fam hop. He became so engrossed in finding a landmark on this VFR day that he lost control of his aircraft and spun into the ground a mere 1,500 feet below. He did not try to eject, and was killed on impact.

A pilot I knew during his TRACOM days made low transitions in his A-6 despite counseling by senior officers. After picking up a brand new aircraft, he again decided to do a low transition. This time, he raised the flaps too soon, and the aircraft departed controlled flight at low altitude. The crash killed not only the pilot and his BN, but a bystander on a perimeter road outside the base.

Over the years, I have often searched for the answer to why these people died and how I have managed to escape their fate. It's clear that loss of SA and breakdown in flight discipline are common threads in these mishaps; not one friend had been lost because of an aircraft maintenance problem.

I have been in many of the same situations and avoided a mishap. Everyone can relate to friends who have died in aircraft mishaps. We can never let our guard down.

It always hurts to lose a friend. Don't wait for a friend to die before you think about what you are doing – or planning to do – to fly safer. ◄

LCdr. Danielson is the A-4 NATOPS Evaluator for COMNAVAIRESFOR. He is assigned to the staff of Commander, Fleet Logistics Support Wing and has more than 4,000 hours of flight time as a fighter and instructor pilot.

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DEPARTMENTS

On the cover:
An F/A-18A Hornet is positioned on the catapult on board USS *Dwight D. Eisenhower* (CVN-69).

Photo by PH2 Darryl L. Glubczynski

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If the Eagles Can Hack It, So Can We

A cold, blue-white flash of brutish intensity focused my attention on the radome . . . then the light was gone. I had been hit by lightning once before.

By Cdr. Robert McLane

I SCARED myself the other day. I hadn't been afraid while flying for several years – other than flying around the boat at night during cruise. You expect those feelings. But, what happened didn't occur on a moonless night in the I.O. Instead, it was a beautiful day at Oceana. We were participating in an exercise in an area 250 nm south of the field. I was flight lead and mission commander of a Tomcat division flying CAP against an Air Force strike force and their F-15 escorts.

Our mission brief was thorough and clear. Weather at homeplate was great, although there were reports of severe thunderstorms farther south as well as an undercast at 3,000 feet. I thought this would be great training, especially for our new guys.

Our four-plane group would split into two sections to more easily maintain VMC. Each section's commit criteria was based on avoiding the escort threat while maximizing the range at which we engaged the low-altitude strikers. We would launch our radar missiles while at high or medium altitude and follow up with Sidewinders at low altitude. We were VMC above the undercast and probably near the thunderstorms. The problem was how to get down to the attackers through the undercast.

We decided to descend below the undercast and regain VMC far enough from the strikers so that there wouldn't be any last-minute cloud penetrations as we approached. (The strike force was required to maintain VMC.) If we encountered heavy rain, we would exit along our ingress route. It sounded like a reasonable game plan.

The F-15s came *over* the biggest line of thunderstorms at 45,000 feet. The Eagles forced one of our F-14s to target them while the other Tomcat watched the lower strikers. The lead F-14 remained at 22,000 feet and fired a Sparrow at the closest Eagle while the wingman descended toward the

PH1 Harold J. Gerwein

strike force. As the simulated missile "timed-out," the lead rejoined his wingman in combat spread and entered several cloud layers while maneuvering around the thunderstorm which was now directly ahead.

Both RIOs had the strikers 16 miles ahead on the *other* side of the biggest bumper I had seen in quite a while. The F-15s had done their job, forcing us to delay our descent, but at the cost of one F-15.

We were still in fairly good shape. Both fighters had the radar picture and as we continued through broken and overcast conditions, we reached a layer at 4,000 feet. I was sure we would find VMC below 3,000, just as the weather-guessers had forecast.

We didn't break out at 3,000, and it wasn't until we got down to 1,000 feet that we were in the clear. I still hoped to pick up the visual below the layer, but my wingman had decided to climb back to 4,000 feet to regroup – a good decision in hindsight. He promptly entered a rainshower

and, as briefed, turned 180 degrees to get back to VMC. After my wingman called to say that he was detaching, we were on our own. But that wasn't so bad; my RIO had the bad guys on the tube six miles away.

Visibility was 3-5 miles in two quadrants with other areas obscured by rainshowers. As the weather deteriorated, my RIO still maintained intermittent contact with the strikers who were now about five miles away.

Avoiding the thunderstorm above us, we were now into a tail chase. I reset the radar altimeter for 500 feet, increased airspeed and concentrated on picking up the strike group. We were close to visual range. They should have been just off to the right.

Then, I heard the radar altimeter's low-altitude warning. We went IMC as I brought the aircraft symbol above the artificial horizon on the HUD. I hadn't noticed the overcast squeezing us down toward the ocean as I strained to see the strikers. Not until the radar altimeter's warning. It was *dark!* Our F-14 was doing 550 knots, and rain was hammering us as we began a climbing right turn toward the clear, back where we came from. We gave up hope of catching the strike force.

We had approached our location at 1,000 feet and were now climbing through 2,500 feet. (I'll leave the low-altitude IMC operations to the A-6s.) The tops were at 45,000. We now had to fight our way through the storm, going out the same way we came in, but at 5,000 feet.

With any luck, as we moved to the storm's exterior, we would find the broken layers we had passed earlier. I throttled back to 280 knots. I wanted to avoid a blue-on-blue situation. We were still relatively close to the bogeys and I didn't want a trigger-happy JO blasting a Tomcat.

My RIO transmitted our status and intentions over the control net, but there was no answer. The frequency was filled with static. I thought that was odd. No one had talked about jamming communications – those Air Force guys were really giving us a show.

A few minutes later, we were still in the clag. We were headed in the right direction, but there was no indication when we would break out. I decided to climb out of it. I thought I knew where the tops were, and we had plenty of fuel. I stroked the burners and climbed.

As we passed 23,000 feet, the master caution light flashed, triggered by the inlet ice light. The sensors had detected ice formation somewhere in the engine intakes. A steadily increasing frost buildup on the Sidewinder's dome confirmed the existence of ice. I decided to continue climbing to get above the precipitation. Higher was better; lower was not an option. Although we were prepared for partial panel flight, we were startled by how fast we had to start. Passing through 28,000 feet, our barometric instruments began to unwind rapidly. We still had 17,000 feet to go to reach the top of the storm.

It was impossible to see through the canopy, and the hail smashing against the airplane drowned out the radio static in our helmets. I wasn't sure how the two TF-30s would handle the ice and hail. I wasn't looking forward to becoming a statistic, besides, flying partial panel is bad enough in the goo. I hadn't figured on armageddon.

A cold, blue-white flash of brutish intensity fused my attention to the radome . . . then the light was gone. I had been hit by lightning once before, but that strike must have been from a minor leaguer. Whatever generated this strike was definitely big time. I wasn't "anxious"; I was *scared.* Playing lightning rod in a thunderstorm was definitely no fun. I called my RIO.

"Hey, Robo, did you see that?"

"Of course I saw it. Get us out of here!"

For the next minute we were treated to random, tingling shocks from metallic cockpit switches and helmet bayonet fittings while an enormous sound-and-light show surrounded us. Almost as suddenly as we had entered this behemoth of a storm, we were hurled free into clear silence.

The damage to our F-14 was one riddled television camera window, a broken anti-collision light, a broken Sidewinder missile dome, and superficial paint scrapes. . . and one Navy fighter pilot's bruised ego.

For years, I had heard "all-weather fighters flown by fair-weather pilots." I never thought I was in that category. Maybe I was wrong. At least I learned a few valuable lessons, not the least of which was respect for Mother Nature. ◄

Cdr. McLane is the CO of VF-102.

Lightning Closes a Runway – With a Little FOD From My Friends

By LCdr. Marty Shultz

LIGHTNING strikes, FOD and runway closures don't normally go together. However, NAS Cecil Field was an exception. At 1945 local, an August thunderstorm's lightning bolt ripped a 2-foot by 5-foot hole, 5 inches deep, in the primary instrument runway (36L), spewing debris 200 feet in all directions.

The runway looked like it had been hit by a mortar. Apparently, the lightning strike was attracted by a buried electrical cable previously used for centerline lighting. The damage by the strike closed the runway.

Fortunately, this master jet base has dual-parallel runways, permitting the field to remain open, but allowing repairs to be made to the damaged strip. The action from the quick-response team from Public Works restored the runway by 1615 the following day.

For those of you who don't have the luxury of dual runways, such a strike would probably have closed your field. Although this is a rare occurrence, a local contingency plan may help reduce the impact of runway closure at single-runway airfields.

For further information, contact Bert Byers, NAS Cecil Field Public Affairs Officer (AV 960-6055), or LCdr. Shultz (AV 860-5565).

LCdr. Shultz is the Aviation Safety Officer for NAS Cecil Field.

How could a 10-ton aircraft be affected by 30-knot winds?

Well, Blow Me Down . . . or Sideways!

By Lt. Steven M. Cochran

THERE I was, with my feet propped on my desk, reading about my responsibilities as ground safety officer. (OK, I was really reading an issue of *MAD*, but I *did* have my turnover binder open.) Suddenly, the SDO came in and said the H-3 I had flown earlier had just been blown 45 degrees from its parked position. The helicopter had jumped its chocks, hit a fire bottle and narrowly missed a fuel truck. I went out to the flight line, and sure enough, sitting like an unleashed elephant, out of its chocks and with the tailwheel perpendicular to the fuselage, was my H-3. How could it have happened?

I had returned from an uneventful three-hour training flight. It was 2015, dark and windy. My copilot and I went through the shutdown checklist. After we shut down, we gathered our gear and walked to the squadron spaces. We passed the maintenance folks and fuel truck as they quickly made their way to the aircraft for the daily-turnaround inspection.

Before our flight, the weather forecasters gave me a good brief. It was a beautiful night to fly with winds from the north at 18-22 knots, with gusts to 30 knots. I correctly assumed it would be somewhat turbulent but there wouldn't be any real problems.

I *incorrectly* assumed this same wind wouldn't pose any problems once we landed. One of the checklist items before shutdown is to check that the tailwheel is locked. On the SH-3, the tailwheel is locked by pulling up on a T-handle and aligning the pin with the hole. It is not a convenient method and many times, the handle will be in the correct position, but the pin won't be seated. That's what had happened. Since the pin had not seated properly, the tailwheel was not locked. The wind gusts were perpendicular to the fuselage and the aircraft was blown from its parking spot.

As I walked out to the helo, I couldn't believe what I saw. How could a 10-ton aircraft be affected by 30-knot winds? With winds 90 degrees to the fuselage and an unlocked tail wheel, the H-3 is easy to move.

The situation could have been worse. The fuel truck was parked next to the H-3, two people were working on top of the Sea King, and one was in the cabin. No one was hurt, however, and the only damage was some chipped paint on the bottom of the fuselage where it struck the fire bottle.

Although NATOPS does not specifically require checking the tailwheel locking pin on postflights, I'll double-check it from now on. I'll also allow myself extra time to do a thorough postflight inspection. If I had done the proverbial "quick look," I might have noticed the unlocked tailwheel.

Later, I called the weather office. The forecaster said the wind was from the north at 18-22 knots, with gusts to 30 knots. I asked what the maximum gust had been that night. He told me 35 knots at exactly 2042, the same time my helo jumped its chocks. ◄

Lt. Cochran is an H-3 pilot with HC-16.

McDonnell Douglas

A Flaps-Up Cat Shot – Almost!

By LCdr. Matthew Boyne

AN interesting thing recently happened on USS *Midway* (CV-41): a design decision that had been made 10-15 years earlier prevented a mishap by breaking the links of a chain of events.

Although he had not flown for six days, the pilot felt comfortable with his night mission, a real-world CAP/AIC. Weather was 3,000, broken, with unrestricted visibility under the cloud base. There was no moon and no horizon.

The pilot usually completed his take-off checklist before getting to the JBD, then dimmed his cockpit lights as low as possible. He also never wore flight gloves to make sure he had the right switches.

As he taxied to the shuttle, he was distracted by an AVAIR Hot caution light which went away as soon as he cycled the bleed air valves. As the Hornet was put into tension, the pilot reached to select 'up' on the launch bar switch. Unfortunately, he grabbed the wrong switch and raised the flaps. He cycled the controls, waited four seconds and turned on his external lights.

The launch bar light was on, but the pilot didn't realize it. Only a single trouble-shooter saw that the Hornet's flaps were up, but he was located on the outboard side, and his suspend signal was not seen. At this point, you're probably expecting a horror story with the aircraft settling off the end and going into the water.

In this case, one of the Hornet's "fail-safe" designs saved the day. Once the aircraft was weight-off-wheels, the flaps programmed down as the AOA increased, causing the nose to pitch up. After some PIO, the pilot tapped burner and got the jet climbing away from the water.

System safety features are great, but should be considered "gravy." As professional Naval Aviators, we need to ensure the human machine is the one making the right decisions. ◄

LCdr. Boyne is an F/A-18 pilot with VFA-151.

For more on this subject, see "Flippin Switches," Approach, October 1989. – Ed.

Any system which depends on human reliability is unreliable.

Ace L.

Cold Weather Survival

By Lt. Darryl Long

This cold weather exercise was a real eye-opener. Aircrew should use the most detailed maps available. Stay proficient in land navigation. Become as knowledgeable as possible about the terrain you'll fly over.

MY Ops O called it a good deal, and at this point during the exercise, three days on Adak would be just the break I needed – or so I thought. Two of us from the air wing would participate in a combat SAR exercise as downed aviators. The Navy SEALs would get a chance to practice their extraction procedures.

We arrived the day before the exercise and listened to the brief. The air wing had been working in the Adak area for the past two weeks, so the harsh weather we would encounter would not be a surprise. To add authenticity, my teammate and I decided to dress in the same gear we wore in the aircraft. Considering the weather at Adak, I was sure this little two-night adventure would be a lesson in tenacity.

The next afternoon, two SEALs (who would be safety observers until the Extraction Team picked us up) placed the two of us at separate locations. We went different ways through the cold, wet tundra, using land navigation and evasion techniques we had learned at SERE School. Our goal was to cóver six km in three hours and arrive at a

prebriefed rendezvous point, 1.7 km from the safe area.

Four-and-a-half hours later we linked up. We were both tired and dehydrated. As we kept going, we made our way to just outside the safe area, then remained hidden until dark.

After sunset, we moved into the safe area, taking high shelter so we could see the entire area and remain out of the wind. We had taken quite a beating. The combination of 50-60 knot winds, intermittent rain, low temperatures, lack of drinking water and sneaking around in full flight gear (including dry suits) had taken its toll.

At 2130, I saw two people enter the safe area. We kept hidden, allowing them to make the first contact. They turned out to be our safety observers checking up on us. First, they moved us to a better position, then to a survival barrel 700 meters to the west. The observers remained behind to direct the extraction team to the new safe area, but navigation proved too hard to the west, so we returned to the original safe area. At 0200, my teammate was showing signs of hypothermia and dehydration and we decided to abort the mission.

We made our way two km to the safety observers' vehicle then drove the rest of the way to Adak housing. We were still well within the extraction window and had just missed the extraction team in the dark.

After we reached Adak housing, the corpsmen put my teammate in a warm-water bath, keeping his limbs clear of the water to prevent shock. He was also given warm water to drink for rehydration.

The next afternoon, I reentered the field with the CO of SEAL Team One. We only walked half the previous day's distance, but there were more hills, so, we sweated as much as the first day. We arrived 400 meters from the new safe area shortly before dusk and waited for sunset. After dark, the skipper and I made our way into the safe area where we separated and hid so that if the "bad guys" arrived first, they wouldn't capture both of us at the same time. The extraction unit made contact soon afterward, and though they were courteous, they treated me as a hostile until my identity was thoroughly authenticated.

For the next phase – the actual extraction – we travelled north along a river that ran from the safe area out to a small finger bay on the coast. While the SEALs prepared the boat, we got dry suits for the Zodiac ride.

It's important to note that, while injuries are considered, the pace for extraction is fast and furious and accomplished only at night.

This cold weather exercise was a real eye-opener. Aircrew should use the most detailed maps available. Stay proficient in land navigation. Become as knowledgeable as possible about the terrain you'll fly over.

Dry suits provide adequate protection for water survival, but you should take them off when evading on land to prevent dehydration. With the amount of perspiration left in the suit, it was impossible to keep warm without moving around. I found that on the second day, long underwear took the moisture from my body, allowing it to evaporate from the liner and flight suit, leaving them only slightly damp.

Putting the dry suit over everything with the zipper open provided outstanding protection from the wind and helped retain body heat. As always, include extra water in your five pounds of optional gear. Finally, wearing two pairs of wool socks, and having gloves and a wool cap in your extra gear are important for increasing your survival chances.

I got a lot more than I bargained for, but I wouldn't trade the experience for anything. The members of SEAL Team One were outstanding. They offered me a chance to hone my survival skills. The SEALs live by the motto "Mind Over Matter," and every aviator could learn from them. ◄

Lt. Long is a member of VAW-113.

This article should remind all aircrews and training officers about the value of basic survival techniques. For more information consult the NATOPS Survival Manual, NAVAIR 00-80T-101. The current 1985 edition is under revision. – Ed.

ANYMOUSE

10

Flight Deck Goggles and UV

The sunlight on flight decks and on flight lines ashore is very harsh. Do the lenses for flight deck goggles protect us from harmful ultra-violet rays? There is no indication that they do.

Glaremouse

This mouse raises a valid concern. Dr. James B. Sheehy of the Naval Air Development Center, Warminster, made a limited evaluation of a set of flight-deck goggles (NSN 8465010042891). He tested the clear and neutral-gray (dark) lenses. The neutral-gray lenses provides adequate protection from UV light; however, the clear lenses transmit an excessive amount of UV light.

Sea Kings and Spiders

After a preflight, the SH-3H was spread on spot with the tail-rotor spider on. The aircraft was the night alert 30 helo. About one hour before sunrise, the Sea King alert crew got the call to launch. They manned up and flew a routine flight, never exceeding 20 degrees angle-of-bank and 90 knots.

During the 45-minute flight, the crew did not notice anything unusual, but, after recovery, the postflight maintenance crew discovered that the tail-rotor spider was still installed!

Several people could, and should, have caught this hazard, but didn't. Now, the spiders are attached by a thick, red cord to the tail-rotor blade boot and the tailwheel tiedown ring. This arrangement makes it impossible to rotate the blades without removing the spider.

Unbelieveablemouse

This is a new one! We'd have thought controlled flight was impossible with the tail-rotor blades gust lock (spider) attached. Apparently, it is as long as the turns are shallow and the aispeeds slow. However, we wouldn't recommend further testing. We all need to learn from this mouse's squadron.

Misdirected Missilex

My flight lead and I launched in two Hornets as part of a missile exercise for a battle group. We were each supposed to fire one Sparrow at drones launched by two A-4s. The scenario was supposed to be as "tactical" as possible. We were to remain at an assigned CAP station until we got hot vectors from our controller on USS *Blackshoe*. After the range safety officer cleared us, we would fire our missiles from the forward quarter and then clear out to allow two F-14s to reattack with rear-quarter heaters.

Three days before the missilex, the Tomcats and Hornets flew a dress rehearsal in accordance with the Letter of Instruction (LOI). Two other Tomcats simulated the drones, and the flight went as planned. We all felt confident that the actual shoot would be a relative no-brainer.

The day of the exercise, we launched and arrived on CAP. Our range time was delayed. One hour – and one visit to the tanker later – range control gave us a hot vector to two bogeys, angels 30 to 40 at 102 miles. My lead and I accepted the vector and began searching for the targets with our radar, assuming the contacts were the target drones because they were referred to as "bogeys." Before long, we had two separate locks and a warm, fuzzy feeling that we had the intercept suitcased.

The *Blackshoe's* controller told us that we had two minutes until *drone launch*. His statement raised the red flag because we realized that the targets we had locked onto, and were planning to *shoot*, were, in fact, the *launch aircraft*.

Knowing that the A-4s were too close, my flight lead asked for a reset.

"Negative," the controller replied, "continue. One minute to launch."

"We're showing XX miles to targets," my lead pressed. "We're too close. We need to reset."

The controller said, "Negative. One minute and counting. Cleared to arm."

With the hair standing straight up on our necks, we broke lock and aborted the run. The Tomcats behind us followed suit.

A heated debate followed our recovery. It turned out that only one drone was launched, and even then, at a significantly closer range than specified by the LOI. The A-4s would not have had time to safely exit the area. Also, the one drone didn't get a motor light, and the second drone failed to separate. Thus, the A-4s flew a post-launch profile that made them look more like drones on radar. Coupled with the inappropriate launch range, this false profile could have led to catastrophe.

When cleared to arm, use your head. Don't take it on faith that the controller or safety observer knows what he is doing. Get a face-to-face with the controller if possible so that everyone knows what to expect to hear on the radio. Also, when the hairs on your neck stand up, abort; no exercise is worth a blue-on-blue solution. Above all, a good flight lead is worth his weight in gold.

Thankfulhornetmouse

Peter Mersky

Heads Up!

By Lt. Steve Gozzo

NO one in our section had flown for a week. We had just finished a three-week at-sea period, and low-level flights were the last thing on our minds.

During our 0600 brief, I discussed the flight, a low-level over the desert. I had flown the route a half-dozen times before. I talked about terrain avoidance, bird strikes, wingman position, weather and emergencies, and crew lookout doctrine. The weather on the short flight would be clear with excellent visibility.

We entered point Alpha on time and flew the route in a tactical formation as briefed. We had the lead for the first half of the route. The checkpoints were easy to find, so my pilot spent more than the normal time evaluating how his wingman was doing maintaining position.

Everything went fine and we switched lead at the halfway point. We descended over a small ridgeline into a valley and flew across an area of slowly rising terrain. We reminded each other how insidious rising terrain can be when you have few ground references. Our lead was on our right and level. As I looked down in my cockpit to check time for the next checkpoint, I caught a movement out of the corner of my eye. It was a haze-gray A-4, at three-quarters of a mile, at our 10 o'clock position, on a collision bearing.

"Pull up," I called. It was all I could get out on hot mike. "Aircraft at 10 o'clock!" My pilot calmly called a tally and started an easy pull on the stick.

"Pull up, pull up!" I shouted again. This time, he began a hard pull which really got us climbing.

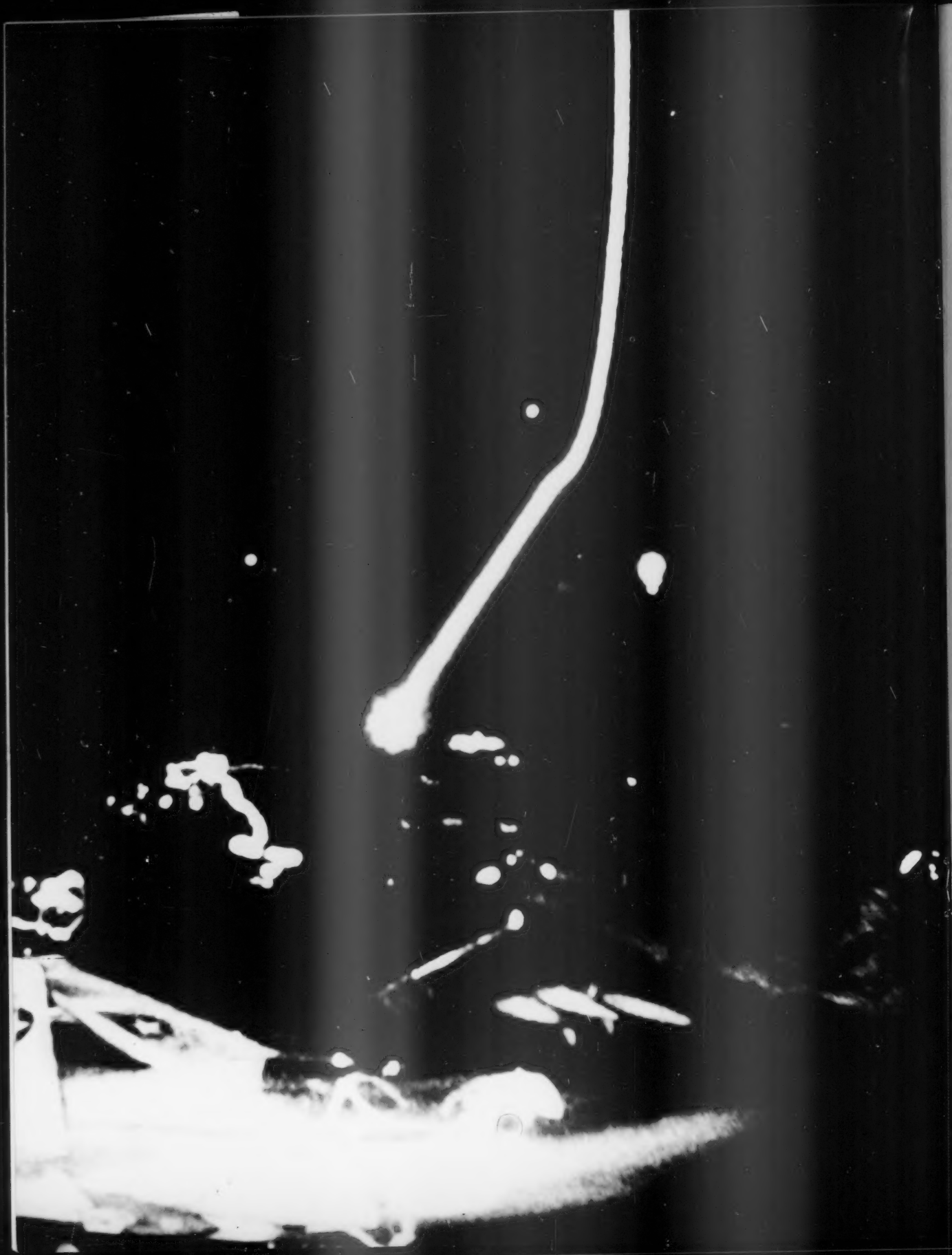
As the single-seat A-4 that my pilot saw became a dot off our right side, he asked why I had continued to shout since he had said he had the aircraft in sight. I asked him if he had seen the second A-4 that passed 50-100 feet below us.

"No, good call," he said after a long silence. The lead hadn't seen the Scooters until they were well clear.

The A-4s were flying in a tactical formation, with the aircraft my pilot had seen low and in the lead. Fortunately, our crew coordination was good and my pilot didn't hesitate to ask questions at that critical moment. We had discussed what we would do in such a situation during the brief. We would respond to any calls requiring immediate aircraft movement and ask questions later.

We often talk about coordination, but how do we know if it is effective? Does it take an emergency or close call before we know the answer? Crew coordination doesn't just happen; it takes time and training to get it right. ◄

Lt. Gozzo is a first-tour RIO with VF-114.



Clearing Turn . . . At Night?

By Lt. Eric W. Hansen

Finally recognizing the situation, I leveled the wings and rotated to begin a maximum performance climb to a safe altitude.

"704, are you OK?" the Air Boss called.

"We are now," my COTAC responded. My heart was pumping like a jackhammer, and I was glad to hear he was still in the game.

At first, the folks on the ship thought that I did not get the word: no clearing turns at night. That wasn't the problem.

The aircraft turn-around sheet didn't mention an additional 1,800 pounds of fuel in the port drop-tank. This breakdown between the plane captain and Maintenance Control created an unknown asymmetric hazard for the crew.

We realized the situation when we began to taxi, too late to calculate the correct takeoff trim setting. A "swag" of two degrees right-wing down was used for the trim setting, but, as I later discovered, five degrees was the recommended setting. And, as we discovered on the approach later that night, this particular aircraft required three degrees right wing-down for straight-and-level (with the drop-tank empty). This meant that the two degrees did nothing to offset the extra weight on the left wing.

Finally, and most importantly, my instrument scan after the cat shot became instrument *fixation.* Once the left wing dropped into a turn, I felt the accelerated sensation of a normal climbout. My attention was drawn to the altimeter, which indicated exactly *zero.* As I stared at the altimeter, I realized I wasn't climbing at all.

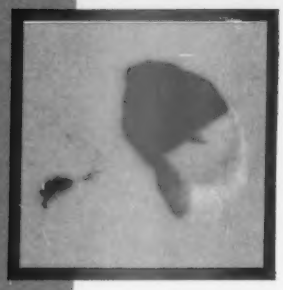
"I think my altimeter is broken," I said to my COTAC. A burst of adrenaline suddenly rushed through me when I glanced at my attitude gyro. I immediately leveled the wings and climbed.

Like a lot of folks say, I relearned a few lessons that night. Double-check your aircraft's fuel right after getting power on the plane. Don't trust anyone. Correct trim is important during the day, but esssential at night. Regardless of the stick forces, or any distraction, make sure your aircraft is climbing after the stroke. Keep your scan moving!

NFOs, you also have an interest in making sure that the pilot establishes a climb after the shot. Tell him if he deviates, before you turn to any other task.

I will always wonder what my altimeter error was that night.

Lt. Hansen flew S-3s in the fleet before reporting to VT-26 as an instructor.



Escape Summary

for Calendar Year 1989

By Cdr. Robert Bason, MSC

CALENDAR year 1989 marked the second best year for Navy-Marine Corps aviation, with a Class A flight mishap rate of 2.41 per 100,000 aircraft flying hours. The record low of 2.16 was set in CY88. The Navy also had its second best year, with a Class A flight mishap rate of 2.19. The record low of 2.03 was set in CY88. The Marine Corps had its second best year as well, with a Class A flight mishap rate of 3.29. The record low of 2.68 was set in CY88.

The total number of fatalities in aviation flight mishaps rose last year. The Navy and Marine Corps reported 78 fatalities (26 Navy personnel, 48 Marine Corps personnel, 4 others) well above 1986's record low of 58. Two Marine Corps helicopter mishaps with 33 fatalities were a major factor.

Despite the rise in the total number of fatalities, the Navy-Marine Corps rate for fatal mishaps was a record low of 1.03, slightly lower than last year. This rate reflects the number of mishaps per 100,000 flight hours in which there was at least one fatality. The fatal-mishap rate for the Navy set a new record low of 0.84, bettering its previous low of 0.90 set in CY88. The Marine Corps saw its second best

fatal mishap rate of 1.75, slightly higher than its record low of 1.56 set in CY88.

Calendar year 1989 had the second lowest number of destroyed aircraft in Navy and Marine Corps flight mishaps. Fifty-four aircraft were destroyed, eight above the record low of 46 set in CY88. The Navy saw the second lowest number of destroyed aircraft with 40, five more than the record low of 35 set in CY88. The Marine Corps had the second lowest number of destroyed aircraft with 14, three more than the record low of 11 set in CY88.

Ejections. In CY89, there were 29 ejections over land and 31 ejections over water. These 60 ejections represent a substantial increase over the 36 ejections recorded for CY88. Survival following ejection still remains the primary concern for the aviation community. Twelve aviators lost their lives during the 60 ejections in 1989 for a survival rate of 80 percent. This survival rate was not significantly different from last year's survival rate of 81 percent (Fig. 1).

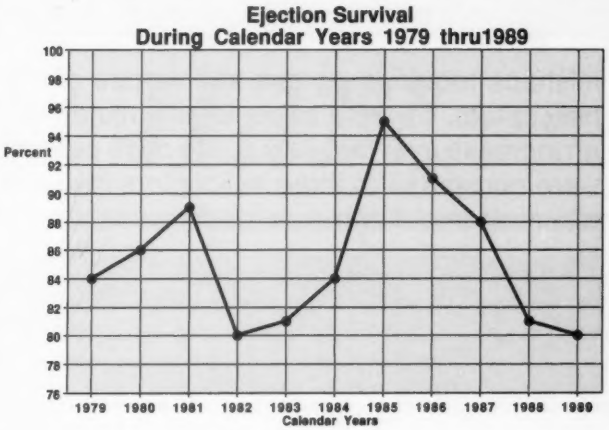


Figure 1

The primary cause of fatalities during ejections remains ejecting while outside the safe ejection envelope. During CY89, eight of the 12 fatalities ejected while out of the envelope. Three of these also delayed initiating ejection, which placed them outside the envelope of the seat (Fig. 2).

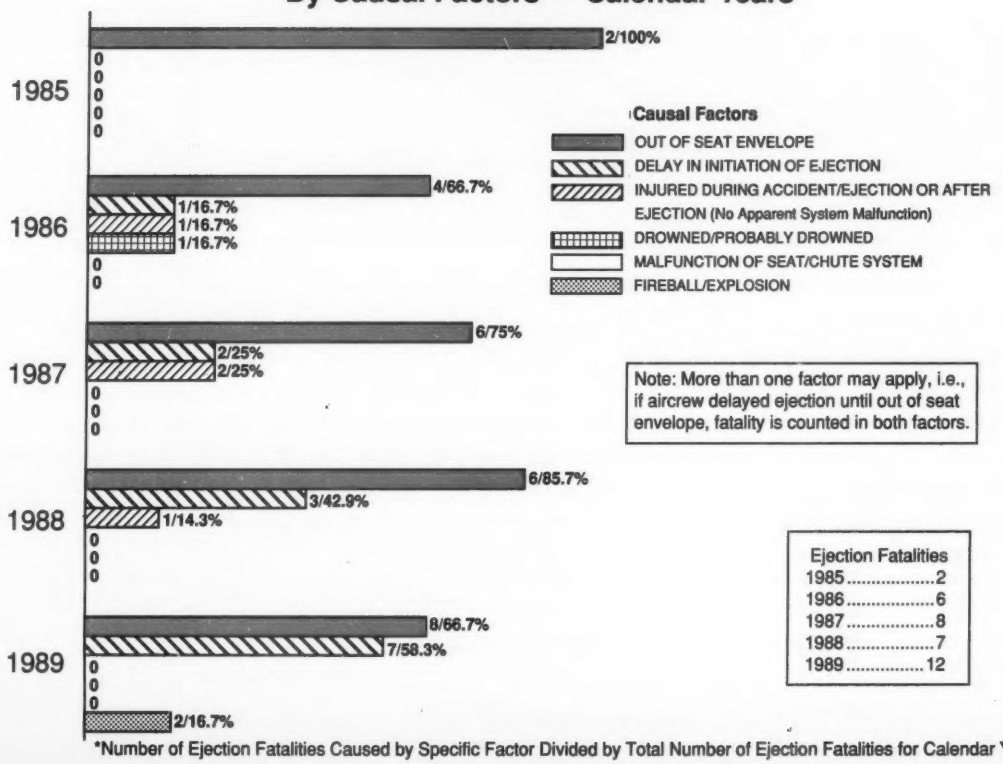
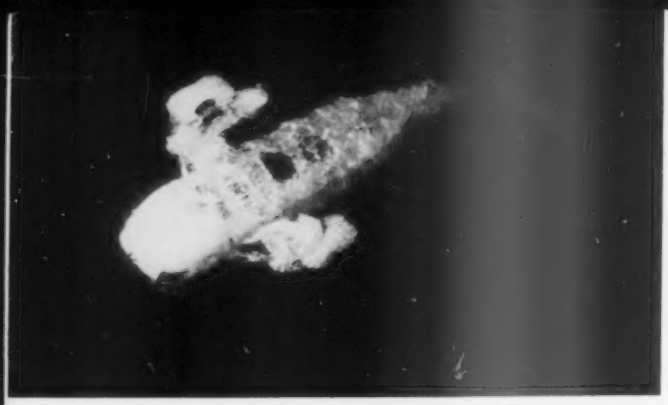


Figure 2



There were 31 ejections over water in CY89, 16 occurring on or near aircraft carriers at approximately carrier-deck level. The survival rate for over-water ejections was 87 percent (27/31), representing a substantial increase over last year's rate of 71 percent (12/17). The survival rate for the carrier-deck-level ejections was 75 percent (12/16).

Helicopters. During CY89, there were 21 helicopters involved in Class A and B flight mishaps requiring egress and rescue of the occupants. Of the 125 occupants in the 21 helicopters, 51 were either fatally injured or lost at sea. This survival rate of 59 percent is an increase over last year's rate of 46 percent (Table 1). Eleven of the fatalities (22 percent) were occupants of three helicopters involved in non-survivable crashes (crashes in which all occupants died).

TABLE 1
HELICOPTER SURVIVABILITY
CY 1989

Helo Model	Total Number of Aircraft	Total Number of Occupants	Total Occupant Fatalities	Percent Survival Rate
AH-1	2	4	2	50%
UH-1	3	17	8	53%
H-2	4	11	1	91%
H-3	3	14	0	100%
H-46	4	35	20	43%
H-53	1	34	19	44%
H-57	2	4	0	100%
H-60	2	6	1	83%
Totals	21	125	51	59%

Of the 114 occupants of 18 helicopters involved in survivable crashes (crashes in which there was at least one survivor) 40 people died. Of these 40 fatalities, 33 (83 percent) were in two helicopters. One mishap involving a CH-53D conducting a troop lift killed 19 of the 34 people on board. The other mishap involved a CH-46E that hit the water shortly after takeoff from the ship. This mishap killed 14 of the 22 people on board. During CY89, the Helicopter Emergency Escape Device (HEED) saved the lives of five aircrewmen. HEEDs entered service in 1987, and it is credited with saving 13 lives through 1989. For further information, contact Cdr. Bason at Autovon 564-7341, or commercial 804-444-7341. ◄

Cdr. Bason is Head of the Naval Safety Center's Physiology Branch.

A special thanks to Ms. Dana Williamson and Ms. Ruth Stefanowicz of the Naval Safety Center for their help in retrieving and compiling data for this article.

There is no excuse for failing to think before acting.
Ace L.

"Follow the Van You Just Hit!"

By LCdr. Thomas P. Phelan

WE launched into the night GCA pattern for multiple approaches and touch-and-goes. It was clear, with no moon. I was in the front of the T-38 with a civilian test engineer in back. We had our landing light on in accordance with SOP and the GCA controller's request.

After six GCAs, we got the night proficiency qual and prepared for a full-stop landing. With all the communication and ICS chatter, I wasn't sure I'd received clearance to land so I confirmed it with the tower on final.

We touched down normally, at 150 KIAS, with the taxi light illuminating the centerline. I aerobraked to 100 KIAS, lowered the nose and glanced to the side to see how much runway remained.

With more than 7,000 feet left, the flight was virtually over, and the pressure was off as we headed for the barn. Suddenly, a large, yellow airfield van appeared and passed from right to left in front of us. A broadside impact seemed inevitable. I had no time to react and braced for the crash. Instead, I felt only a slight thump. After catching my breath, I brought the T-38 to a complete stop on the runway and "calmly" reported the collision to the tower.

My left wingtip had hit the rear of the vehicle. The outer 18 inches of the wingtip sliced through the van, leaving a 3-inch strip of the wing imbedded. The van, which had been traveling down an off-duty runway, had requested clearance to cross the active. The tower told him to hold short. The driver was unable to stop and rolled onto the runway. Upon seeing my taxi light, with no chance to reverse, he jammed on the accelerator and tried to get across in front of me. He almost made it.

The three passengers in the van had no idea what was happening until they saw my aircraft pass just behind them and leave part of the wing inches from one person's shoulder.

Fortunately, no one was injured and the damage was limited. My plane's wingtip was replaced, and the Talon was flying a few days later. With some body work, the van was soon making its rounds again.

I relearned a few lessons that night. The flight's not over until you sign the paper work and leave Maintenance Control. Having the taxi light on probably saved us all. I'm also glad I reconfirmed our landing clearance. ◄

LCdr. Phelan was a student at the U.S. Naval Test Pilot School at the time of this incident. He is an A-6 pilot assigned to VA-115.

Left to right: Ltjg. Douglas C. Hamilton, Ens. Christopher S. Zimmerman

Lt. Eric E. Devita
Ltjg. Brian P. Grant
VA-122

Lt. Devita (IP) and Ltjg. Grant (RP) were returning to NAS Lemoore after a low-level training mission. Completing an en route descent to the initial, Ltjg. Grant advanced the throttle to level off at 4,000 feet. He heard a loud grinding noise accompanied by warning lights for engine stall, temp-vibe and engine hot.

Lt. Devita assumed control of the TA-7C and selected manual fuel, but engine performance did not improve. Lt. Devita declared an emergency, immediately switched his approach to the closer parallel runway, and set up for a precautionary approach.

Ltjg. Grant assisted with pocket checklist procedures, extended the emergency power pack (EPP), and lowered the tailhook for a shortfield arrestment.

The temperature of the engine turbine outlet was more than 900 degrees C. (Maximum temperature is 583 degrees C.) Thrust appeared to be lower than normal.

At one mile, Ltjg. Grant in the front cockpit took control because he had better visibility. At one-third of a mile to touchdown, the crew added power, which resulted in sparks and flames coming from the tailpipe and decreased engine performance. Ltjg. Grant was still able to land on the overrun.

Postflight inspection revealed damage to all turbine stages aft of the first stage. Numerous parts of the turbine blades were found short of the runway.

Left to right: Ltjg. Brian P. Grant, Lt. Eric E. Devita

Ltjg. Douglas C. Hamilton
Ens. Christopher S. Zimmerman
VT-23

Ltjg. Hamilton (IP) and Ens. Zimmerman (SNA) launched as Dash-2 on a four-plane gun flight. Just after rotation, both pilots heard a loud bang followed by severe power loss on the No. 1 engine. Almost immediately, the engine accelerated back to MRT, then stalled and lost power again.

With aircraft still in the takeoff configuration, Ltjg. Hamilton took control and moved away from his flight leader. He quickly assessed the situation and told Ens. Zimmerman to secure the No. 1 engine while he continued to keep the aircraft away from the lead. Ltjg. Hamilton declared an emergency, turned downwind, dumped tip-tank fuel and made a single-engine landing.

Postflight inspection showed that the No. 1 engine had ingested a bird, resulting in the stall and power loss.

LtCol. Robert P. Kudwa,
USMCR
VMA-322

LtCol. Kudwa was the pilot of the lead A-4M in a six-plane flight returning from a two-week training deployment to NAS Fallon. Forty-five minutes after takeoff, the Marine Air Reserve A-4s rendezvoused with their KC-10 tanker. The tanker cleared the Skyhawks in to begin re-

BRAVO ZULU

fueling. LtCol. Kudwa moved to the pre-contact position and reported that he was stabilized. The KC-10 cleared him in to plug. He engaged the drogue at minimum closure rate but saw no takeup response from the hose.

A sine wave developed immediately, severing the basket from the hose at the coupling. The basket was thrown up and over the A-4 as the hose beat on the canopy and aircraft.

LtCol. Kudwa began to pull out from the tanker but his engine had ingested a large quantity of fuel through the right intake and had flamed out. He tried to get a relight and succeeded on the third try. Then, he declared an emergency.

During the divert back to Fallon, his wingman saw a 3/4-inch, 8-foot-long spring wrapped around the top and bottom of the A-4's right leading-edge slat. After making a controllability check at 15,000 AGL, followed by a precautionary approach, LtCol. Kudwa recovered safely.

Capt. Monte Bierschenk, USMC
1stLt. Gregory Anderson, USMC
HMLA-369

After flying an instrument-navigation hop from Camp Pendleton to MCAS Yuma in an AH-1W SuperCobra, Capt. Bierschenk and 1stLt. Anderson received a GCA pickup 10 miles west of Yuma. After an initial heading change, they were told to climb from 1,500 feet MSL to 2,500 feet MSL. 1stLt. Anderson increased power to begin the climb when the helicopter began an uncommanded right yaw of 20-30 degrees followed by a complete loss of power and low rotor rpm warnings.

Both pilots responded by lowering the collective to regain rotor rpm, which had decayed to 80 percent. Capt. Bierschenk in the rear seat took control while Lt. Anderson declared an emergency.

During the autorotation, they recovered rotor rpm and maintained it in the flare before touchdown. Capt. Bierschenk adjusted his flight path to land in a cultivated lettuce field. The Cobra touched down with minimal forward airspeed and descent rate.

As the aircraft's skid touched down, the landing gear collapsed, and the helo slid 10 feet before coming to rest upright on its belly and auxiliary fuel tank. Damage was minor.

The main driveshaft, which connects the combining gearbox to the transmission, had failed. The pilots' quick analysis and response to conflicting indications enabled them to recover rotor rpm and prepare for a full autorotation within 30 seconds and within an altitude of 1,300 feet.

Left to right: Capt. Monte Bierschenk, USMC, 1stLt. Gregory Anderson, USMC

The Day the Wind Stood Still

By LCdr. Ronald C. Raymer

A TYPICAL summer day in the eastern Med: thick haze, visibility three miles, temperature in the low 90s, density altitude around 2,500 feet and a warm 20-knot breeze. I was the HAC going through the last hour of a long Alert-5 in my SH-3H, waiting for my relief crew and watching the fighter guys ogling centerfolds in their cockpits. There was a British radio station from Akrotiri, Cyprus, on the ADF.

"612, Primary." Something was up.

"Go ahead, Boss."

"Yeah, we're gonna launch you on an ASW mission. Some small boys think they have something and need you to check it out."

All right. Finally, some flight time payback for all this alert time. I knew the crew that was supposed to take my bird for the first event launch wouldn't like it, but that didn't bother me.

The ASW Module sent us to a frigate about 40 miles away

PH2 Carl Duvall

I didn't do myself any favors by being only 25 feet off the water. I didn't have much room for error if the wind "ceased" momentarily.

that had reported a pop-up radar contact. The ship vectored us on top of a surfaced Soviet Foxtrot submarine. It didn't take a lot of ASW wizardry to track this guy on the surface but sub contact time is what wins Battle E's. We stayed with him for more than two hours despite the fact that the sub was heading away from Mother, and we were now 60 miles from home.

We checked our fuel and told the frigate we would have to head back unless we could get a high-drink from him. The ship said no problem and coordinated the extra time on station with X-ray as we set up for the HIFR.

Because of the high sea-level density altitude in the Med in the summer, squadron SOP called for us to fuel to only 4,200 pounds. If we took on much more than that, we would lose our ability to hover out-of-ground-effect (HOGE). We made a quick check of our pocket checklist's HOGE chart. With 4,200 pounds of fuel, the 20-knot headwind plus whatever the ship could make, we could hover a 19,200 Sea King with 85-90 percent torque.

The ship cleared us in for the HIFR with winds 10 degrees to port at 20-25 knots with gusts to 35. I briefed my copilot, who had checked into the squadron only a couple of weeks before, to monitor torque and that we would stop fueling if we hit 86 percent.

The approach and hose hook-up went fine, and I slid left to assume the position while the small boy pumped fuel. We noticed that from our 40-foot hover, fueling was extremely slow so we lowered our hover to 25 feet. This helped the flow rate a little, but it also increased the turbulence due to airflow around the superstructure. I moved out to the left a bit to try to reduce the turbulence and because I had noticed that my rotor blades were overlapping the deck edge.

We continued fueling at the same painfully slow rate while my copilot called out the torque readings.

"Sixty-five percent, 75, 78 . . ." We had reached about 3,600 pounds on board when the readings changed rapidly; so did my copilot's voice pitch.

"Seventy-eight percent, 80, 85, 90 . . . !"

The collective was now up in my left armpit and though the engines were giving it all they had, we were still sinking toward the water.

"Breakaway!" I yelled, and the aircrewman released the quick disconnect as I tried to gain more forward airspeed. I yawed left in an attempt to avoid the ship, and after settling a bit more, I managed to "scoop it out" and we were flying again.

In fact, the helo had briefly hit the water, but the tail rotor stayed dry, nothing was damaged and no one was hurt. After the ship extracted its flight deck crew from the safety nets, we returned the upper part of their fuel hose and headed back to our lumbering, surfaced Foxtrot. After the flight, the SDO greeted me in the ready room.

"Skipper wants to see you," he said. The blackshoe CO had sent out an Op Immediate Personal to my CO describing the HIFR.

So, what happened? Since we didn't have an engine problem, it seems that the power required exceeded power available. A review of the SH-3 topping chart showed that the aircraft should have 98 percent torque available at 92 degrees Fahrenheit, 2,500 feet DA (500 feet PA). The HOGE chart showed that torque required to hover at 18,600 pounds, 2,500 feet DA with a 20-knot headwind, should be about 85 percent torque. Why did our SH-3 suddenly not have enough power to hover?

We had taken on a little more than 1,600 pounds of fuel, but the ship certainly wasn't pumping fast enough to increase our power required by 20 percent in just a few seconds. We checked our power frequently; my copilot (who was also the squadron Safety Officer) had recited torque readings like a mantra.

The most plausible explanation is that the gusty winds were plus or minus 10-15 knots from the reported 25. Higher than reported winds were no problem, but when you subtract 15 knots from our headwind, the power needed was now within 3-4 percent of available power. That's enough to make the helo settle unless you quickly pull in max torque before your downward momentum builds.

I also didn't do myself any favors by being only 25 feet off the water. I didn't have much room for error if the wind "ceased" momentarily.

The moral is that gusts can reduce as well as increase a steady wind, and you should give yourself a conservative margin for error when you figure out how much power you'll need. ◄

LCdr. Raymer is assigned to HS-15.

Spit with the wind, not against it.
Wells Fargo Stagecoach Company

Rules for Riders

Through the Mountains and Into the Goo

By Lt. John J. Ruttenberg

"I HOPE you guys can see better than I can up there 'cause I can't see anything," my SENSO said. He was trying to give me a reason to cancel a potentially dangerous night passage. I didn't take it.

We had been on a standard, night-training hop offshore. We made a few simulated night approaches to the ship, then went out to the doppler area. Lately, I'd felt like the night doppler god as a junior HAC who was current and didn't mind flying at night.

After completing the practice doppler, we considered hopping into the GCA pattern, but we didn't want to spend the rest of the flight just doing approaches. We decided on a night area FAM up the west side of an island.

Although this side of the island was rural, there was enough light from houses and the sliver of moon to see the clouds rolling over the tops of the mountains about two miles inland. We headed up the coast as I decided to do a transition through the mountain pass. It was an approved transition and I had done it many times during the day, and several times at night. I had also been through one of the other passes on the island with a senior HAC on a night.

I asked my copilot if he had ever been through the pass. He said he had during the day. It was dark and cloudy, but I didn't think there would be any problems. I asked if my crew had any reservations. No one did. I called the control tower on the other side of the pass, and they approved the transition.

As we flew on, the darkness increased. I thought it would be nice to have a well-lit road through the pass. But I wasn't worried. By this time, the SENSO told me he couldn't see anything, and I wished I could take a time-out. I began a left 360.

The pass had become hard to see, and it was real dark. I was just about to call it off when we lined up with the pass and could see all the lights of the Army-Air Force base on the other side. Everyone agreed that was our destination, and we headed back toward the pass.

We could make out the sides of the 4,000-foot mountains in the dark. The clouds were a few hundred feet above us, and there was light ahead. We encountered the usual turbulence as we approached the apex of the pass. I added the small amount of power I usually did as we passed through, just for that extra clearance. It was probably more power than normal since I was staring at the shadowy precipice below us.

As I looked up, I couldn't see the lights so well, and we were going into the goo. Although my training said to lower the collective and get to VMC, my apprehension said to get up and away from the mountain. I pulled us right up into the clouds before I realized I was through the pass. The weather was clear ahead – my SENSO confirmed this with a timely radar call. We popped back out into VMC seconds after I lowered the collective. We had only been in the clouds by perhaps 100-200 feet, but that was enough.

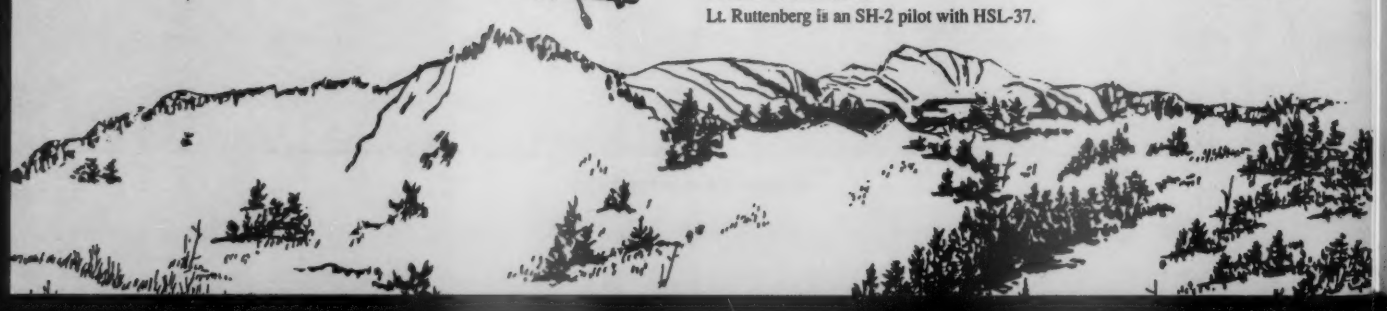
I called the tower and told them we were clear and went back to our field for some GCAs. Later, we discussed our learning experience. I said I had done something less than brilliant, but we had survived.

When you get a feeling in your stomach that maybe you shouldn't do what you're doing, you probably are right. Making a practice mountain passage at night, with clouds draping the pass, is not a smart move. And, even though I asked for comments before making the passage, no one said anything against it. We let ourselves succumb to an unnecessary can-do attitude.

Maintain situational awareness, and don't get tunnel vision. You need all your senses during a flight like this. Coming through the pass it was critical to be completely aware of everything around us, not just the "cumulogranite."

I had put us in a difficult situation. As a HAC, I had the experience and responsibility to make better decisions. The safety of my crew and aircraft depended on my ability to make those calls.

Lt. Ruttenberg is an SH-2 pilot with HSL-37.



Sucked in by Night Space Myopia

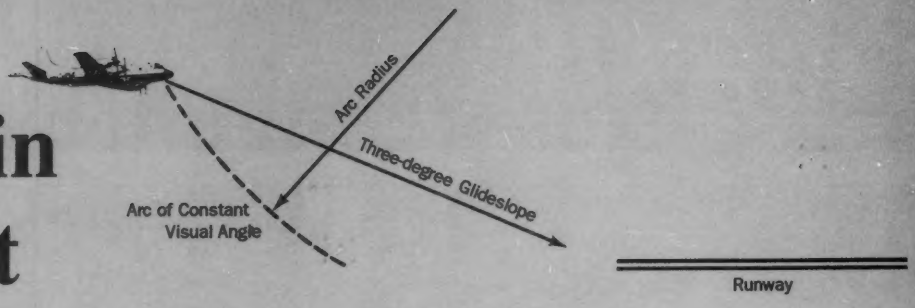


Figure 1

By Lt. Bob Stoney

WE were near the end of our SSSC mission in the I.O., looking for a Soviet ship that had left port a few days before. Although we had launched in daylight, it had been dark for five hours. The sky was hazy, and there was no moon and no horizon. I stood behind the flight engineer as the 2P and 3P flew the airplane. Just as I was about to say, "Let's go home," the 3P called out a light in the distance.

"Let's check it out," I said.

As we turned and flew toward the light, we each had a different opinion as to its identity. Our radar operator did have a contact – we were at 1,000 feet – so I thought the light might be a star. The 3P was sure it was a surface contact only a few miles away; and the 2P, in the left seat at the controls, couldn't decide what the light was or how far away it was. After flying toward the light for two minutes, the radar operator announced a contact straight ahead at 25 miles. There went my star theory.

We all agreed that the light didn't seem to be 25 miles away. As we got closer, the light got bigger and brighter; and after another five or six minutes, we realized it was a large array of bright lights on a fishing boat, a larger "mother ship," with several smaller boats around it.

The 2P brought the P-3 down to 500 feet, began a 25-degree bank, and as we passed by, all of us in the cockpit – three pilots and the flight engineer – stared at the lights, mesmerized by their brightness. I suddenly had the feeling that something was wrong, and I looked at the gauges. We were descending at 1,500 fpm, passing through 300 feet.

"Pull up!" I yelled. The 2P rolled out, applied full power (with a lot of help from a wide-eyed flight engineer), and made a 3-G pullup, bottoming out at 100 feet.

After our breathing returned to normal, we all decided we had been sucked in by the lights. It wasn't until years later, while attending safety school, that I learned the technical term for what we had experienced: night space myopia.

I learned that during the day there are enough visual cues – depth perception, color variations, shadows and topographical features – to allow pilots to visually control altitude and glidepath.

At night, however, these cues usually disappear and, without realizing it, pilots maintain a constant visual angle relative to the lights in the area. The reasons are complex, but the bottom line is that we end up flying a curved flight path lower than we think we are. (See Figure 1.)

Conversely, if a pilot maintains a constant altitude or glideslope by using his instruments, and then transitions to a visual scan, he will feel that he is higher than he really is. That's what happened to us as we passed over the fishing boats.

Several other factors like clear air and bright light increase the problem. You can't do much about the air, but you can ask the tower to turn the runway lights down. Because of refraction, looking at lights through a rain-soaked canopy or windscreen also fools the pilot into thinking he's too high. Likewise, looking at lights through a rainshower makes them appear bigger and closer. An indistinct horizon will also trick you, leading you to mistake distant lights on the ground or on the sea for stars.

Night space myopia is also called the "black hole problem" and affects pilots from all communities. Attack and fighter pilots can be tricked during night low-levels or night bomb deliveries. Any pilot can be fooled during an approach to an isolated field, or a carrier. (That's pretty isolated, isn't it?)

Helicopter pilots will see these effects while making approaches to ships, dropping flares at sea, or approaching lighted landing zones.

Combatting this insidious hazard requires an awareness of the phenomenon through training, a strong instrument scan and good crew coordination. ◄

Lt. Stoney is an instrument pilot and ASO at the U.S. Naval Test Pilot School.

Note to Maintenance: Hook Checks 4.0

By LCdr. Norman Walker

IT was just another drone safety hop. I'd taken the QF-4N to the end of the runway, thrown the switches, passed control to "Bush" in the remote control cockpit, and sat back for the ride as he launched me from Point Mugu out to the warning area. The mission was a practice missilex and a remote recovery into the E-28 arresting gear at San Nicolas. For the recovery, we briefed that Bush would get the plane on deck, and if he had a hook skip or bolter, he'd keep the Phantom on the runway for a full stop.

I always had override authority if I didn't like it. Actually, I didn't like any of it, but someone's got to be in the jet while the remote controllers practice takeoffs and landings. Otherwise, we'd crash a lot more aircraft.

The takeoff was good (a relative term for sitting in the plane alone without control while someone in another location sends you screaming down the runway with two J-79s in full afterburner.)

The mission went well (another relative term to describe being alone while someone else flies you at 40,000 feet, at 1.2 Mach, in formation with two other Phantoms.) The approach to San Nicolas was good, but we boltered by a hair. Oh, well. A quick check told me I was at 140 knots passing the 4-board and the drag chute hadn't deployed.

No, I didn't think this would work, and I pulled the trigger, which gave control back to me. I stuffed it into burner. What a great feeling as those two J-79s come alive. You have to love those engines. I check my instruments, 150 knots, pull back on the stick, and hey, what's that just under my nose? Oh, it's just the E-5 overrun chain gear. No big deal, except I've still got my hook down!

As powerful as those screaming engines are, and as much energy as 40,000 pounds of F-4 has at 160 knots, it's just no match for 88,000 pounds of anchor chain. I blew both tires and ground the wheels down to half-moons. Those engineers at the chain gear office had it figured right: one Phantom, just a couple of thousand under max trap, at max engaging speed, and I stopped 30 feet short of the end of the runway. At San Nicolas, that just happens to be a cliff!

Never in my 10 years of flying had I even considered raising the hook on a bolter. It usually didn't matter. But it could matter ashore, depending on your location and situation. I look at the airfield diagram a little closer now, and I check the location of the overrun gear, too.

LCdr. Walker was assigned to the Targets Directorate of PMTC at the time of this story. He is currently an F-14 pilot with VF-213.

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BROWNSHOES IN ACTION COMIX

"The kind real aviators like"
By Lt. Ward Carroll

Recently, an aviator was walking across the flight deck following a hop, when his FLU-8 inadvertantly activated . . .

The cause was found to be RF energy.

During a det to Fallon, Ltjg. George "Spazz" Bodonka was getting out of the duty van, when his FLU-8 inadvertantly activated.

The cause was found to be . . .


Don't let FOD
take a bite
out of your day.
Do your part
and
pick it up.
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